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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/058,737	01/30/2002	Tomoyasu Muraki	2002_0016A	5663

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WASHINGTON, DC 20006-1021

EXAMINER

MCCLENDON, SANZA L

ART UNIT	PAPER NUMBER
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1711

DATE MAILED: 07/30/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/058,737

Applicant(s)

MURAKI, TOMOYASU

Examiner

Sanza L McClendon

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 1/30/2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-3 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 7/9/02.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

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DETAILED ACTION

*Claim Rejections - 35 USC § 102 / 35 USC § 103*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-3 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Kasai et al (JP 62-070436).

The information taken from JP 62-070436 is taken from the abstract. Note, the examiner is interpreting claim 1 to be a rubber composition or a crosslinked rubber product comprising an isobutylene copolymer with a density of at most 0.95, wherein the use as a rubber stopper for a medicament or a rubber article for medical treatment and the capability of being readily subjected to a radiation treatment are future intend uses and limitations. The examiner also is interpreting "radiation treatment" to include curing, vulcanization, crosslinking, as well as, degradation and decomposition.

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Kasai et al teaches a obtaining a rubber molding, such as stopper for closed vessels, by irradiating a molding obtained from an elastomer blend a crosslinking with radiation. Said elastomer blend comprises 2-60 wt% of a thermoplastic resin, 20-90-wt% of partially crosslinked butyl rubber and, optionally, 0 to 70-wt% of unvulcanized brominated butyl rubber or polyisoprene. Said radiation exposure is done using a gamma radiation source to crosslink said blend. It is known that butyl rubber usually comprises at least 3-wt% of isoprene. Therefore the inventions of claims 1-3 are anticipated by the reference. It is noted that Kasai et al does not expressly teach the density of said butyl rubber resins, however applicant has not established the criticality of the density, the examiner contends that an isobutylene rubber copolymer with any density could have been used since the irradiation step would have worked equally as well with any type isobutylene rubber at any density unless applicant can provide unexpected results and/or evidence to the contrary.

4. Claims 1-3 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Shurpik (3,989,611).

The examiner is interpreting claim 1 to be a rubber composition or a crosslinked rubber product comprising an isobutylene copolymer with a density of at most 0.95, wherein the use as a rubber stopper for a medicament or a rubber article for medical treatment and the capability of being readily subjected to a radiation treatment are future intend uses and limitations. The examiner also is interpreting "radiation treatment" to include curing, vulcanization, crosslinking, as well as, degradation and decomposition.

Shurpik teaches radiation treatment of polymers containing isobutylene. Shurpik teaches that polyisobutylene or butyl rubbers can be vulcanized utilizing ionizing radiation when carried out in the presence of selected halogenated catalyst—see column 2, lines 6-10. This appears to anticipate claims 1-3, wherein said butyl rubbers according to Shurpik comprises 3 mol% of isoprene—see example 1. It is noted that Shurpik does not expressly teach the density of said butyl rubber resins or crosslinked products thereof, however applicant has not established the

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criticality of the density, the examiner contends that an isobutylene rubber copolymers with any density could have been used since the irradiation step would have worked equally as well with any type isobutylene rubber at any density unless applicant can provide unexpected results and/or evidence to the contrary. Or in the case of the crosslinked products the examiner contends that any density of crosslinked isobutylene rubber would have worked equally as well because as the number of crosslinks increases the density will increase unless applicant can provide unexpected results and/or evidence to the contrary.

5. Claims 1-3 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Pearson et al (4,162,354).

Pearson et al teaches promoters for radiation induces crosslinking in polymers. Said polymers include natural and synthetic rubbers, such as chlorobutyl rubber having 1.1 to 1.7-mol% of isoprene—see example 4. Per example 4, Pearson et al teaches mixing chlorobutyl rubber with a colorant and irradiating to crosslink (vulcanize) said composition. It is noted that Pearson et al does not expressly teach the density of said butyl rubber resins, however applicant has not established the criticality of the density, the examiner contends that an isobutylene rubber copolymer with any density could have been used since the irradiation step would have worked equally as well with any type isobutylene rubber at any density unless applicant can provide unexpected results and/or evidence to the contrary.

6. Claims 1-3 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Zapp et al (4,144,154).

Zapp et al teaches polythiol accelerated radiation crosslinking of olefinically unsaturated polymers—see title. Said olefinically unsaturated polymers used by Zapp et al include butyl rubbers, such as halogenated butyl rubbers. Said butyl rubbers comprises, preferably, 0.5 to 30 percent of a multi-olefin, such isoprene or piperylene or cyclopentadiene—see column 3, lines 50-65. Per examples, Zapp et al teaches mixing said butyl rubbers and polythiol promoter and irradiating

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with radiation to crosslink said rubbers. This appears to anticipate claims 1-3. It is noted that Zapp et al does not expressly teach the density of said butyl rubber resins, however applicant has not established the criticality of the density, the examiner contends that an isobutylene rubber copolymer with any density could have been used since the irradiation step would have worked equally as well with any type isobutylene rubber at any density unless applicant can provide unexpected results and/or evidence to the contrary.

*Conclusion*

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sanza L McClendon whose telephone number is (703) 305-0505. The examiner can normally be reached on Monday through Friday 8:00 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on (703) 308-2462. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0657.

Sanza L McClendon

Examiner

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SMc

July 26, 2003

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